

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
16 December 2004 (16.12.2004)

PCT

(10) International Publication Number
WO 2004/108469 A1

(51) International Patent Classification⁷: **B60M 1/18**

(21) International Application Number:
PCT/GB2004/002251

(22) International Filing Date: 27 May 2004 (27.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0312831.1 4 June 2003 (04.06.2003) GB
0405412.8 10 March 2004 (10.03.2004) GB

(71) Applicant (for all designated States except US): **MULTI-CLIP COMPANY LIMITED** [GB/GB]: Osprey House, 63 Station Road, Addlestone, Surrey KT15 2AR (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BOINTON, Richard, Guy** [GB/GB]: 31 Torr Bridge Park, Yealmpton, Devon PL8 2JF (GB). **SHRUBSALL, Peter, Rickard** [GB/GB]: Burwood House, Brackendown, West Hill, Ottery St Mary, Devon EX11 1NT (GB).

(74) Agent: **FENLON, Christine, Lesley**; Haseltine Lake, Imperial House, 15-19 Kingsway, London WC2B 6UB (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

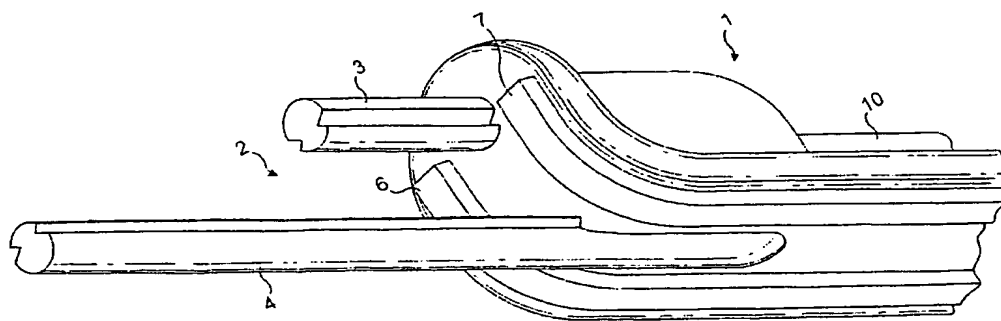
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **NEUTRAL SECTION**



(57) Abstract: In a neutral section (1) for use with an overhead railway conductor line, which neutral section (1) is disposed between the ends of the conductor line when in use and comprises an insulator (10) to isolate the ends of the conductor line from each other, the neutral axis of the neutral section (1) being such that when the neutral section (1) is in use the neutral axis is aligned closely with the neutral axis of the conductors on its either side and the height of the insulator (10) is chosen so that the stiffness and the dynamic mass of the neutral section (1) closely match those of the conductors on its either side in both the vertical and horizontal planes.